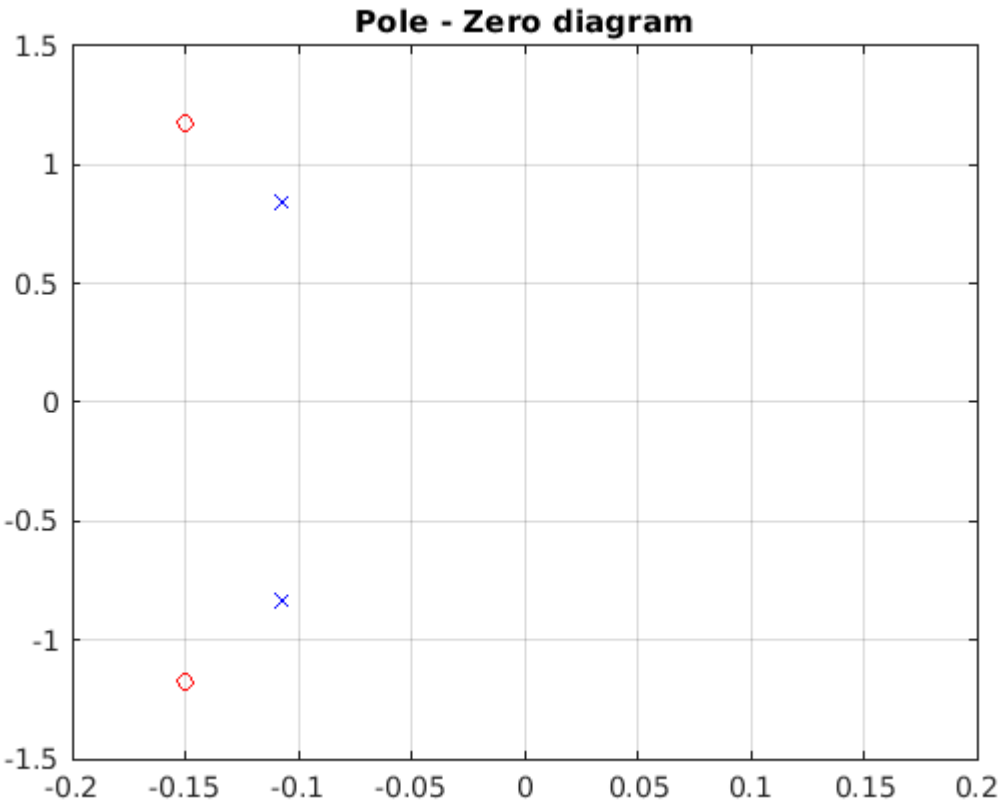
# This is Q3 of assignment.

```
sys = tf([5,1.5,7],[7,1.5,5]);

z = zero(sys);
p = pole(sys);
```

Now plotting the pole-zero diagram.

```
len_p = length(p);
len_z = length(z);

for i = 1:1:len_p
    plot(real(p(i)),imag(p(i)),'bX')
    hold on
end
for j = 1:1:len_z
    plot(real(z(j)),imag(z(j)),'rO')
end

grid on
title('Pole - Zero diagram')
axis([-0.2 0.2 -1.5 1.5])
```




Marking the co-ordinate axis for better view of stability.

```
x_abscissa = [-1 1]
```

```
x_abscissa = 1×2
    -1     1
```

```
y_abscissa = [0 0]
```

```
y_abscissa = 1×2
     0     0
```

```
plot(x_abscissa,y_abscissa,'color', 'black')

x_ord = [0 0]
```

```
x_ord = 1×2
     0     0
```

```
y_ord = [-2 2]
```

```
y_ord = 1×2
    -2     2
```

```
plot(x_ord,y_ord,'color', 'black')

hold off;
```